46. (New) A method as set forth in claim 45, wherein said measuring step comprises the steps of:

placing the sample within the coil; and

measuring the inductance of the coil containing the sample.

47. (New) A method as set forth in claim 46, wherein said correcting step comprises the steps of:

measuring the temperature of the coil containing the sample; and

subtracting the inductance of the coil without a sample at a temperature corresponding to the measured temperature from the measured inductance of the coil containing the sample.

48. (New) A method as set forth in claim 47, wherein said coil is capable of at least a 3.7 % change in inductance upon receiving the sample.

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49. (New) A method as set forth in claim 47, wherein said coil is capable of at least a 11.1 % change in inductance upon receiving the sample.

Remarks

In the Office Action, the disclosure was objected to because "[t]he abstract does not describe the claimed invention." With this response, the abstract has been rewritten so as to be directed to the claimed invention. Accordingly, it is submitted that this objection has been overcome.

Further in the Office Action, claim 33 was rejected under § 102(b) as being anticipated by U.S. Patent No. 5,334,932 to Nielsen. The '932 patent teaches providing a sensor arrangement for measuring the quantity of ferrous particles suspended in a fluid such as lubricating oil in a transmission. The sensor arrangement comprises a series resonant circuit including a coil 62. An oscillating detector is coupled to the series resonant circuit and comprises an operational amplifier 2, a rectifier 3, an integrating comparator 4, and a multiplier 6. A rectified signal from the oscillating detector is provided to a period measurement line of a

microprocessor. A microprocessor program counts the number of pulses arriving at the measurement line per period of time and calculates a period of oscillation of the resonant circuit, see column 6, lines 27-30. As debris particles accumulate on a collection surface 60 adjacent to the coil 62, the inductance of the coil changes, thereby changing the period of oscillation of the oscillating detector.

The '932 patent discusses temperature compensation in column 4, line 62 through column 5, line 4 as follows:

> The output of the oscillator is fed to a microprocessor which measures the change in period of the oscillator as debris accumulates on the probe. The difference in the period from the initial period (measured with no debris particles) is a measure of the amount of debris particles accumulated. Simultaneously, a signal which is proportional to the resistance (temperature) of the sensor coil, is also provided to the microprocessor. The microprocessor calculates a correction factor and applies it to the observed change in period to correct for the temperature difference.

Claim 33, as amended, now recites:

> A method of measuring inductance or inductive reactance of a sample comprising the steps of: (a) providing an instrument for measuring the inductance or the inductive reactance of the sample; (b) subjecting a portion of the instrument to different temperatures and recording data corresponding to the performance of the instrument portion at each temperature; (c) measuring the inductance or the inductive reactance of the sample using the instrument; and (d) correcting said measurement of inductance or inductive reactance for temperature based on the performance data.

Nowhere does the '932 patent disclose, teach or suggest any one of steps (b)-(d) set out in amended claim 33. That is, the '932 patent fails to disclose, teach or suggest subjecting the coil to different temperatures and recording data corresponding to the performance of the coil at each temperature, measuring the inductance or inductive reactance of debris particles using the coil, and correcting the measurement for temperature based on the performance data. Rather, the '932 patent teaches generating to a signal proportional to "the resistance (temperature) of the sensor coil" (see column 4, lines 67 and 68 and column 5, lines 52-54), providing that signal to a microprocessor, and using an "appropriate algorithm" running on the microprocessor to apply "a correction or compensation to the measured period as correction for the nonlinear temperature

effects on the inductor," see column 5, lines 55-58. Not only does the '932 patent fail to disclose, teach or suggest any one of steps (b)-(d) set out in claim 33, it also fails to specify the steps performed by the "appropriate algorithm" to effect the noted temperature correction. Accordingly, a full disclosure of any sort of temperature compensation scheme is believed to be lacking in the '932 patent. For these reasons, it is believed that the '932 patent does not anticipate or render obvious the subject matter now recited in claim 33.

With this paper, new claims 37-49 have been added. Support for the subject matter set out in claims 37-40 and 43-47 can be found in the present application, for example, on page 22, line 5 through page 23, line 2. Support for the subject matter set out in claims 41 and 48 can be found in Fig. 6, while support for the subject matter of claims 42 and 49 can be found in Fig. 6 and on page 12, lines 10-12 of the specification. No new matter is involved. It is believed that claims 37-49 define patentable invention over the prior art.

It is also submitted that claims 37 and 44 recite additional limitations, which further distinguish the subject matter of those claims patentably from the applied prior art. Those claims recite that a meter is provided for directly reading coil inductance. In the sensor arrangement disclosed in the '932 patent, the inductance of the coil is not measured directly. Rather, it is determined indirectly via the oscillating detector.

It is further submitted that claims 41, 42, 48 and 49 recite additional limitations, which further distinguish the subject matter of those claims patentably from the applied prior art. Claims 41 and 48 recite that the coil is capable of at least a 3.7% change in inductance upon receiving the sample, while claims 42 and 49 recite that the coil is capable of at least a 11.1% change in inductance upon receiving the sample. The '932 patent teaches that the "the total change in oscillator frequency *** is on the order of approximately two percent," see column 6, lines 55-59. It is believed that for a 2% change in frequency, a 0.04% change in inductance occurs. A much broader range of measurement provides a more useful invention.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned "**VERSION WITH MARKINGS TO SHOW CHANGES MADE**."

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In view of the above remarks, applicants submit that claims 33 and 37-49 define patentably over the prior art. Early notification of allowable subject matter is respectfully requested.

Respectfully submitted,

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Attorney Docket 23813A
Serial. No. 08/864,229

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims

Claim 33 has been amended as follows:

33. (Amended) A method of measuring inductance or inductive reactance of a sample comprising the steps of: (a) providing an instrument for measuring the inductance or the inductive reactance of the sample; (b) subjecting a portion of the instrument to different temperatures and recording data corresponding to the performance of the instrument portion at each temperature; [(a)] (c) measuring the inductance or the inductive reactance of the sample using the instrument; and [(b)] (d) correcting said measurement of inductance or inductive reactance for temperature based on the performance data.